

## REMARKS

The 23 August 2004 official action addressed claims 1-34. Claims 7-9 and 17-19 are canceled. Claims 1, 11, 21 and 27 are amended. New claims 35-44 are added.

### Overview of amendments

Claims 1 and 11 are amended to be specific to the case of generating metadata that describes an entire television program. Claims 1 and 11 are further amended to specify that metadata is created from production data that is received from a production system prior to broadcast of the television program, and that the metadata is created and transmitted to receivers before broadcast of the television program.

Claims 21 and 27 are amended editorially.

New independent claims 35 and 40 are similar to claims 1 and 11, but are specific to the case of determining individual segments of a television program and generating metadata for each segment that describes the subject matter of that segment.

Dependent claims 36-39 and 41-44 are analogous to claims 3-6 and 13-16.

No new matter is added.

### Response to objections and rejections

All claims were rejected under 35 USC §102(e) as being anticipated by Hullinger (U.S. 6,295,092). It is believed that each group of claims require features that are not found in Hullinger.

Claims 1-6, 10, 11-16 and 20

Independent claims 1 and 10 relate to a process of generating metadata that describes a television program. The process involves several notable features, including obtaining production data from a production system prior to broadcast of the television program, generating metadata for the television program from that production data, and transmitting the metadata to television program receivers prior to broadcast of the program.

Regarding claims 1 and 11, the official action notes that Hullinger obtains closed caption data for a television program, however this closed caption data is obtained by recording the broadcast of the television program. Therefore Hullinger does not obtain production data corresponding to the television program *from a production system* used in the production of the television program *prior to broadcast of the television program*. In this regard, the official action noted that Hullinger's system receives Nielsen ratings data and alleged that this data constitutes time and descriptive information. However Nielsen ratings data is data that is compiled from viewers to determine the number of viewers who viewed a program, and thus is done separately from production of the television program and is not available until after broadcast of the program. As such it does not satisfy the claim requirements of being production data that is received from a production system prior to broadcast of the television program.

The official action also notes that Hullinger creates metadata for transmission to receivers, alleging that such transmission is performed by transmitting the data to a user interface for display to a user. Applicants disagree that this constitutes the transmission recited in the claim, however it is clear that Hullinger does not *transmit the metadata to television program receivers before broadcast of the television program*. Rather, Hullinger's system is itself a television program receiver that records broadcasts and generates data describing the program after the fact of its broadcast.

These differences distinguish Hullinger from claims 1 and 11, and Hullinger does not reasonably suggest the type of system required by the claims.

Regarding claims 3 and 13, the official action notes that Hullinger categorizes programs according to their station and time slot. However, these are not ***subject matter categories*** (claim 3) that ***describe the subject matter of the program*** (claim 1). Consequently, these categories also do not provide a subject matter category ***hierarchy*** in which subject matter categories are encompassed by other subject matter categories.

Regarding claims 4 and 14, the official action notes that Hullinger stores scores for every phrase in any program from a given channel, and stores scores for every news broadcast run on a given channel. In contrast, claims 4 and 14 require the determination of ***a representative subset of numerical goodness of fit scores*** (claim 4) from among a set of numerical goodness of fit scores that were determined for a ***particular program*** (claim 1) and then ***storing the representative subset***. There is no process in Hullinger that generates scores for a particular program, and then determines and stores only a subset of those scores for the program.

Regarding claims 5 and 15, the official action notes that Hullinger receives data that indicates the times at which stations air broadcasts. In contrast, claims 5 and 15 require that ***rundown data*** is received from a ***production system***. "Rundown" data is a term of art in the television production field that refers to data indicating events that occur within a program. One of ordinary skill in this field would not consider simple program schedule data (i.e. the broadcast times of programs) to constitute rundown data. The terms must be interpreted in the manner of one of ordinary skill in the art, and applicants have already established that understanding by supplying an example of rundown data in the application (Figure 4).

Claims 35-44

Claims 35-44 are addressed here because of their similarities to claims 1 and 11 and their dependent claims.

The distinctions pointed out above with respect to claims 1 and 11 are also applicable to independent claims 35 and 44. Like claims 1 and 11, claims 35 and 44 specify that the production data is obtained *from a production system* used in the production of the television program *prior to broadcast of the television program*, and that the metadata is *transmitted to television program receivers before broadcast of the television program*.

In addition, claims 35 and 44 recite processing in which individual segments of a television program are identified, metadata for the individual segments is created, and the metadata for the individual segments is transmitted to television receivers. Hullinger describes a process in which segments of a television news program are identified, however in Hullinger the segments are identified by an individual who must manually view the program and determine the start and end times of each segment and the topic of the segment, see col. 9, line 49 – col. 10, line 13. Although Hullinger states that the classification process could be automated, Hullinger does not teach how that could be accomplished. Hullinger thus fails to enable that feature and therefore cannot be asserted to anticipate that feature. Consequently, Hullinger does not anticipate a system that *processes production data to identify individual segments of a television program*. These differences distinguish Hullinger from claims 1 and 11, and Hullinger does not reasonably suggest the type of system required by the claims.

Regarding claims 36 and 41, these claims are similar to claims 3 and 13, which require the use of *subject matter categories* (claim 36) that *describe the subject matter of the program* (claim 35) and that are arranged in *a subject matter category hierarchy* in which subject matter categories are encompassed by other subject matter categories.

Regarding claims 37 and 42, these claims are similar to claims 4 and 14 in that they require the determination of **a representative subset of numerical goodness of fit scores** (claim 37) from among a set of numerical goodness of fit scores that were determined for a **particular program** (claim 35) and then **storing the representative subset**.

Regarding claims 38 and 43, these claims are similar to claims 5 and 15 in that they require the receipt and processing of **rundown data** received from a **production system**.

#### Claims 21-34

Independent claims 21 and 27 describe processing that obtains production data from a production system and processes the production data to generate keywords that describe the programming event. In particular, the processing uses production data to identify a set of candidate key words, i.e., a set of words from which the keywords for the program are selected. The claims specify that each keyword is provided as input to a classification tool, a set of scores corresponding to subject matter categories is generated for each candidate keyword, and a set of keywords is selected based on those scores.

Hullinger describes a system that records a television program and counts the number of occurrences of individual words and phrases.

In regard to the claim requirement of providing a candidate keyword as input to a classification tool and generating goodness of fit scores indicating how descriptive various subject matter categories are of that keyword, the official action cites col. 6, lines 25-67. The cited text describes the data that are associated with individual phrases in Hullinger's system. This data includes: an ID for the phrase; the total number of times it has appeared in closed caption data; the number of times it has appeared in closed caption data concerning a particular topic; the number of times it has appeared in closed caption data of a particular speaker ("talent"); the number of times it has appeared in closed caption data for a

particular type of production (live, taped etc.). This does not constitute generating for each candidate keyword a set of goodness of fit scores corresponding to ***subject matter categories***, where each goodness of fit score ***represents a degree to which the category is descriptive of the candidate keyword***. For example, Hullinger gives sports and weather as examples of topics. In accordance with the cited portion, each word used in closed caption data will have a count of how many times it has been used during segments concerning each of those topics. However this does not indicate the degree to which "sports" or "weather" is descriptive of that word. It merely indicates how many times that word has been said in segments that dealt with sports or weather as a whole. Depending on the word, "sports" or "weather" might not be descriptive of that word at all, even though it has been used many times in sports or weather segments.

In regard to the feature of selecting keywords based on their set of scores assigned to categories, the official action references col. 8, line 50 – col. 9, line 35. The cited text describes a process of determining whether the text contained in two lines of closed caption text (each line being referred to by Hullinger as a "segment") is best described by one of three topics (local, national, international). To do so, Hullinger's system combines the lines of text and searches them for the longest phrases (up to three words long) for which the system has scores (appearance counts) in its databases with respect to those topics. The system retrieves those scores and combines the scores for all of the phrases to produce total scores under each category (see Table at col. 9). The system selects the topic with the highest score as the topic for the two combined lines of text. In contrast, the claim requires that ***keywords*** are selected from among ***candidate keywords*** based on their sets of numerical ***category scores***. In regard to the previous claim limitation, the official action treated Hullinger's phrases as candidate keywords. In regard to the present limitation, the official action changes its position and treats Hullinger's topics as candidate keywords, which are selected based on the counts associated with their constituent phrases. The claim requires

that keyword are selected *from among the candidate keywords*. The inconsistencies in the official action make it appears to assert that Hullinger meets this requirement by selecting its topics from among its phrases. This is not what Hullinger does, and these inconsistencies show that Hullinger is not applicable to the present claims.

Regarding claims 22 and 28, the official action references the table at col. 9, which shows words and phrases of closed caption data. The claims require that candidate keywords are determined by *identifying verbs and nouns in the production data* and *using the verbs and nouns as candidate key words*. The table at col. 9 includes verbs and nouns but there is nothing to indicate that Hullinger performs a process to identify the verbs and nouns and use them as candidate keywords. The fact that the table contains words that are not verbs or nouns shows that Hullinger does not perform such a process.

Regarding claims 23 and 29, the official action references col. 9, lines 31-48. The cited text describes the process of storing the topic-related scores for two lines of closed caption text after determining those scores. The process for determining those scores was described above. The claim requires that descriptive information for the production data is provided as input to the classification tool, a set of numerical scores associated with subject matter categories is generated *for the descriptive information*, and then correlations between the set of category scores *for the descriptive information* and the set of category scores *for each candidate keyword are identified*. Hullinger does not perform such processing.

Claims 33 and 34 specify that numerical goodness of fit scores are assigned to subject matter categories that are arranged in a hierarchy of at least three-levels. Hullinger does not satisfy this requirement, as described above with respect to claims 3 and 13.

The foregoing amendments and remarks address all bases for objection and rejection and are believed to place the case in condition for allowance. The examiner is invited to contact the undersigned to resolve any remaining issues.

Respectfully submitted,

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